

IN THE CLAIMS:

1 1. (CURRENTLY AMENDED) A computer system for reporting information
2 related to volumes maintained on computer storage devices, comprising:
3 each volume defining a logical arrangement of storage space on one or more of
4 the storage devices, the storage devices accessible over a computer network;
5 an interface to enable assigning the volumes to a plurality of groups of volumes,
6 each volume assigned to a selected group;
7 a monitor process that identifies a desired group of the plurality of groups and re-
8 trieves a statistical information from volumes of the desired group; ~~and~~
9 an events process that determines identities of interested parties for a predeter-
10 mined event condition with respect to the volumes based upon the statistical information;
11 and
12 a reporting process that organizes and displays the statistical information with re-
13 spect to the volumes associated with the desired group to the interested parties.

1 2. (CANCELLED)

1 3. (ORIGINAL) The system as set forth in claim 2 wherein the event conditions include
2 parameters of the volume and an associated device of the volume that exceed threshold
3 levels.

1 4. (ORIGINAL) The system as set forth in claim 3 wherein the parameters include at
2 least one of a central processing utilization level, a storage disk free space, a storage disk
3 used space, an environmental condition and operational status.

1 5. (PREVIOUSLY PRESENTED) The system as set forth in claim 3 wherein the event
2 process is adapted to e-mail event information to at least some of the interested parties.

1 6. (ORIGINAL) The system as set forth in claim 5 wherein the e-mail of the event in-
2 formation includes web links for use by the interested parties.

1 7. (ORIGINAL) The system as set forth in claim 3 further comprising a database that
2 retains information with respect to the interested parties and the threshold levels for the
3 parameters.

1 8. (ORIGINAL) The system as set forth in claim 1 wherein the each of the volumes are
2 attached to each of a plurality of filers, respectively.

1 9. (ORIGINAL) The system as set forth in claim 1 further comprising a command proc-
2 ess for generating web pages that report the statistical information to at least some of the
3 interested parties.

1 10. (ORIGINAL) The system as set forth in claim 9 wherein the web pages are con-
2 structed and arranged as graphical user interfaces that enable display of the statistical in-
3 formation in a plurality of predetermined windows and boxes within the windows based
4 upon selection criteria entered by the interested parties.

1 11. (ORIGINAL) The system as set forth in claim 10 further comprising alerts displayed
2 on the graphical user interface based upon problems identified by the monitor process
3 with respect to the volumes or devices associated with the volumes.

1 12. (ORIGINAL) The system as set forth in claim 11 wherein the alerts are color-coded
2 based upon severity of the problems, respectively.

1 13. (PREVIOUSLY PRESENTED) The system as set forth in claim 1 wherein the re-
2 porting process is adapted to consolidate the statistical information from one or more
3 volumes on one or more storage appliances into the group.

1 14. (CURRENTLY AMENDED) A graphical user interface for use with a management
2 station or client attached to a network having storage volumes, the graphical user inter-
3 face comprising:
4 a display window that enables at least one of the volumes to be selectively associ-
5 ated with a desired group of volumes, the volumes associated with a plurality of groups
6 of volumes, each volume including a cluster of physical storage disks and defining a logi-
7 cal arrangement of storage space; and
8 a display window that shows information related to performance and status of the
9 volumes of a selected group of the plurality of groups based upon criteria selected by
10 the user;
11 wherein the information includes an indication of events in which an operational
12 parameter exceeds a threshold predetermined for the desired group.

1 15. (CURRENTLY AMENDED) The graphical user interface as set forth in claim 14
2 wherein the information includes at least one of central processing unit usage, volume
3 disk free space, volume disk used space; environmental conditions; and general opera-
4 tional status-and events in which an operational parameter exceeds a predetermined
5 threshold.

1 16. (CURRENTLY AMENDED) The graphical user in interface as set forth in claim 15
2 14 wherein the events include alerts that are color-coded based upon severity of a prob-
3 lem.

1 17. (ORIGINAL) The graphical user interface as set forth in claim 15 further comprising
2 a link box that directs a user to network or Internet-based utilities in connection with the
3 information.

1 18. (ORIGINAL) The graphical user interface as set forth in claim 14 wherein each dis-
2 play window is formatted as a web page and is displayed on a web browser.

1 19. (CURRENTLY AMENDED) A method for reporting information related to volumes
2 maintained on at least one computer storage device, comprising the steps of:
3 identifying a plurality of groups of the volumes, each group independent of a
4 physical arrangement of the computer storage devices in a network;
5 identifying interested parties associated with each group;
6 retrieving statistical information with respect to a selected group of the volumes,
7 each volume including a cluster of physical storage disks and defining a logical arrange-
8 ment of storage space; and

9 organizing and displaying the statistical information with respect to the volumes
10 associated with the selected group to the interested parties.

1 20. (ORIGINAL) The method as set forth in claim 19 wherein the step of reporting in-
2 cludes e-mailing the statistical information to at least some of the interested parties.

1 21. (ORIGINAL) The method as set forth in claim 20 further comprising formatting a
2 web page containing the statistical information in a predetermined display format.

1 22. (ORIGINAL) The method as set forth in claim 21 further comprising changing the
2 predetermined display format based upon user-selected criteria.

1 23. (ORIGINAL) The method as set forth in claim 19 wherein the step of organizing and
2 displaying includes displaying event information related to predetermined of the statisti-
3 cal information that exceeds desired parameters.

1 24. (ORIGINAL) The method as set forth in claim 23 wherein the step of displaying the
2 event information includes providing color-coded alerts that indicated a severity of a
3 problem associated with the respective event.

1 25. (CURRENTLY AMENDED) A computer-readable medium operating on a computer
2 in a network that includes one or more storage devices having volumes, the computer-
3 readable medium including program instructions for performing the steps of:

4 identifying a plurality of groups of the volumes, each group independent of a
5 physical arrangement of the computer storage devices in the network;
6 identifying interested parties associated with each group;
7 retrieving statistical information with respect to a selected group of the volumes,
8 each volume including a cluster of physical storage disks and defining a logical arrange-
9 ment of storage space; and
10 organizing and displaying the statistical information with respect to the volumes
11 associated with the selected group to the interested parties.

1 26. (PREVIOUSLY PRESENTED) A method for organizing and displaying information
2 with respect to one or more volumes on one or more storage appliances attached to a
3 network, the method comprising the steps of:

4 establishing a plurality of groups of one or more of the volumes, each group based
5 upon predetermined reporting criteria, each volume including a cluster of physical stor-
6 age disks and defining a logical arrangement of storage space, each volume having statis-
7 tical information associated therewith; and

8 consolidating the statistical information collected from a selected group of the
9 plurality of groups with respect to the volumes in the selected group for display to inter-
10 ested parties.

1 27. (ORIGINAL) The method as set forth in claim 26 further comprising comparing
2 known predetermined threshold values to parameters of the statistical information gener-
3 ating an event condition when the at least one of the parameters exceeds at least one of
4 the threshold values, respectively.

1 28. (PREVIOUSLY PRESENTED) The method as set forth in claim 27 further com-
2 prising notifying at least one of the interested parties based upon the event condition us-
3 ing an electronic message.

29-53 (Cancelled)

1 54. (CURRENTLY AMENDED) A method for reporting information related to a plu-
2 rality of storage volumes in a network, comprising the steps of:
3 retrieving statistical information with respect to the plurality of volumes, the vol-
4 umes stored on one or more RAID systems, each RAID system of the one or more RAID
5 systems implemented on a plurality of physical storage disks;
6 associating at least one of the identified volumes with a group of a plurality of
7 groups, each group of the plurality of groups having one or more volumes associated
8 therewith, each group independent of the one or more RAID systems on which the vol-
9 umes are stored; ~~and~~
10 associating at least one of the groups with particular interested parties;
11 organizing and displaying the statistical information with respect to the plurality
12 of volumes associated with a selected group of the plurality of groups to the interested
13 parties asocated with the selected group.

1 55. (PREVIOUSLY PRESENTED) The method of claim 54, further comprising:
2 determining if a parameter of a volume exceeds a threshold level; and
3 in the event that the parameter does exceed the threshold level, notifying
4 the interested parties.

1 56. (PREVIOUSLY PRESENTED) The method of claim 54, further comprising:
2 generating a web page that reports the statistical information to at least
3 some of the interested parties.

1 57. (PREVIOUSLY PRESENTED) The method of claim 54, further comprising:
2 displaying the statistical information in a plurality of predetermined windows and
3 boxes within the windows based upon selection criteria entered by the interested parties.

1 58. (PREVIOUSLY PRESENTED) The method of claim 54, further comprising:
2 directing a user to Internet based utilities in connection with the information.

1 59. (PREVIOUSLY PRESENTED) The method of claim 54, further comprising:
2 directing a user to network based utilities in connection with the information.

1 60. (PREVIOUSLY PRESENTED) The method of claim 54, further comprising:
2 formatting a display window for the statistical information as a web page to be
3 displayed on a web browser.

1 61. (CURRENTLY AMENDED) An apparatus to report information related to a plural-
2 ity of storage volumes in a network, comprising the steps of:
3 means for retrieving statistical information with respect to the plurality of vol-
4 umes, the volumes stored on one or more RAID systems, each RAID system of the one or
5 more RAID systems implemented on a plurality of physical storage disks;
6 means for associating at least one of the identified volumes with a group of a plu-
7 rality of groups, each group of the plurality of groups having one or more volumes asso-

8 ciated therewith, each group independent of the one or more RAID systems on which
9 the volumes are stored; ~~and~~
10 means for associating at least one of the groups with particular interested parties;
11 and
12 means for organizing and displaying the statistical information with respect to the
13 plurality of volumes associated with a selected group of the plurality of groups to the
14 interested parties associated with the selected group.

1 62. (PREVIOUSLY PRESENTED) The apparatus of claim 61, further comprising:
2 means for determining if a parameter of a volume exceeds a threshold level; and
3 in the event that the parameter does exceed the threshold level, means for
4 notifying the interested parties.

1 63. (PREVIOUSLY PRESENTED) The apparatus of claim 61, further comprising:
2 means for generating a web page that reports the statistical information to
3 at least some of the interested parties.

1 64. (PREVIOUSLY PRESENTED) The apparatus of claim 61, further comprising:
2 means for displaying the statistical information in a plurality of predetermined
3 windows and boxes within the windows based upon selection criteria entered by the in-
4 terested parties.

1 65. (PREVIOUSLY PRESENTED) The apparatus of claim 61, further comprising:
2 means for directing a user to Internet based utilities in connection with the infor-
3 mation.

1 66. (PREVIOUSLY PRESENTED) The apparatus of claim 61, further comprising:

2 means for directing a user to network based utilities in connection with the infor-
3 mation.

1 67. (PREVIOUSLY PRESENTED) The apparatus of claim 61, further comprising:
2 means for formatting a display window for the statistical information as a web
3 page to be displayed on a web browser.

1 68. (CURRENTLY AMENDED) A computer readable media, comprising:
2 said computer readable media containing instructions for execution on a processor
3 for the practice of a method for reporting information related to a plurality of storage vol-
4 umes in a network, the method having the steps of,
5 retrieving statistical information with respect to the plurality of volumes, the vol-
6 umes stored on one or more RAID systems, each RAID system of the one or more RAID
7 systems implemented on a plurality of physical storage disks;
8 associating at least one of the identified volumes with a group of a plurality of
9 groups, each group of the plurality of groups having one or more volumes associated
10 therewith, each group independent of the one or more RAID systems on which the vol-
11 umes are stored; ~~and~~
12 associating at least one of the groups with particular interested parties; and
13 organizing and displaying the statistical information with respect to the plurality
14 of volumes associated with a selected group of the plurality of groups to the interested
15 parties associated with the selected group.

Please add the following new claims:

1 69. (NEW) A method for reporting information related to volumes maintained on at
2 least one computer storage device, comprising the steps of:

3 organizing the volumes into a plurality of reporting groups according to desired
4 reporting parameters for the reporting groups;

5 assigning group-related reporting parameters to each of the reporting groups; and

6 reporting events associated with each reporting group according to the group re-
7 lated performance parameters.

1 70. (NEW) The method of claim 69, wherein the reporting parameters include threshold
2 values for reporting events associated with the reporting groups.

1 71. (NEW) The method of claim 70, wherein the threshold values are included in the
2 group consisting of exceeded thresholds for device or filer central processing unit (CPU)
3 utilization, device environmental conditions (temperature, etc.), volume free space, disk
4 free space and NFS operations per second.

1 72. (NEW) The method of claim 69 wherein the reporting parameters include a list of
2 interested parties to whom reporting will be directed for a reporting group.

1 73. (NEW) The method of claim 69, further comprising:
2 selecting a reporting group for retrieval of statistical information; and
3 retrieving statistical information with respect to the selected reporting groups.

4 74. (NEW) The method of claim 73, further comprising:

5 organizing and displaying the statistical information to interested parties associ-
6 ated with the selected reporting groups.

1 75. (NEW) A computer readable media, comprising:
2 instructions for execution on a processor for the practice of a method for reporting
3 information related to volumes maintained on at least one computer storage device, the
4 method having the steps of,
5 organizing the volumes into a plurality of reporting groups according to desired
6 reporting parameters for the reporting groups;
7 assigning group-related reporting parameters to each of the reporting groups; and
8 reporting events associated with each reporting group according to the group re-
9 lated performance parameters.

1 76. (NEW) A system for reporting information related to volumes maintained on at least
2 one computer storage device, comprising:
3 an interface adapted for organizing the volumes into a plurality of reporting
4 groups according to desired reporting parameters for the reporting groups; and
5 a assigning process for assigning group-related reporting parameters to each of
6 the reporting groups; and
7 a reporting process for reporting events associated with each reporting group ac-
8 cording to the group related performance parameters.